

## **A Dynamic, Hierarchical Data Exchange System**

### **ABSTRACT**

A computer system provides the ability to construct and edit a Data Definition File (DDF) containing hierarchically related elements of data, some of which are dynamic in that they must execute in order to produce or retrieve data. A client computer system having knowledge of a DDF appropriate for its uses sends a request to a server, which contains or can retrieve the DDF requested by the client. The request contains parameters used by the server to customize the resulting keyed data file for the client's purposes. Upon receipt of the request, the server copies the DDF into a coupled memory, performs requested parameter substitutions, and executes dynamic elements to produce resulting data elements. The process is repeated recursively for all elements of the hierarchical structure, until no dynamic elements remain, then the resulting keyed data file is returned to the client for its uses. Data elements may be derived from a plurality of sources, and these sources may be combined and manipulated using a plurality of data operations, including relational algebra or structured query language, enabling joins and merges between multiple sources and formats. An Authoring System is provided which assists in the construction and validation of DDFs.